18. Calculate standard deviation for the following data :

Class interval :	0-10	10-20	20-30	30-40	40-50
Frequency :	5	8	15	16	6

19. Find the Bowley's coefficient of skewness for the following data :

Marks :	Below 10	10-20	20-30	30-40	40-50	Above 50
No. of Students :	10	20	30	50	40	30

20. Calculate the correlation coefficient between from the data given below :

Sales :	50	50	55	60	65	65	65	60	60	50
Expenses :	11	13	14	16	16	15	15	14	13	13

NOVEMBER/DECEMBER 2023

CACS32/BACS32/FACS32 — STATISTICAL METHODS AND THEIR APPLICATIONS – I

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is Pie diagram?
2. Define classification of data.
3. Find the mode of weight of 7 students from the following data

   37, 26, 35, 39, 35, 41, 48.
4. Write a note on median.
5. What is quartile deviation?
6. Define standard deviation.
7. What is meant by Kurtosis?
8. Define moments.
9. Define rank correlation.
10. What is simple regression?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the various sources of secondary data.

Or

(b) Discuss the different parts of a table.

12. (a) Find the missing frequency from the following data :

Marks :	0-10	10-20	20-30	30-40	40-50	50-60
No. of students :	5	15	20	–	20	10

The arithmetic mean is 34 marks.

Or

(b) Calculate Median for the following data :

Marks (more than) :	0	10	20	30	40	50
No. of Students :	50	46	40	20	10	3

13. (a) Write down the properties of a good measure of dispersion.

Or

(b) Calculate the range and its coefficient from the following distribution.

Size :	60-62	63-65	66-68	69-71	72-74
Number :	5	18	42	27	8

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14. (a) Discuss the different methods of measuring skewness.

Or

(b) The first 4 central moments of a distribution are 0, 2.5, 0.7 and 18.75. Find the skewness and kurtosis of the distribution.

15. (a) Write down the properties of correlation coefficient.

Or

(b) Given that $n = 12$, $\Sigma x = 120$, $\Sigma xy = 4992$, $\Sigma y = 432$, $\Sigma x^2 = 1392$, $\Sigma y^2 = 18252$

Find out the two regression equations.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the various diagrammatic representation of data with examples.

17. Find the Geometric mean and Harmonic mean for the following data :

x :	20	21	22	23	23	25
y :	4	2	7	1	3	1